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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,494	01/24/2001	Peter C. Van Buskirk	2771-272	2111

7590 12.07.2001
Oliver A. Zitzmann
ATMI, Inc.
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Danbury, CT 06810

EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 12/07/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,494

Applicant(s)

BUSKIRK ET AL.

Examiner

Allan W. Olsen

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 January 2001.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 12-14, 23-27 and 51-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 53 is/are allowed.
- 6) ☒ Claim(s) 2-4, 12-14, 23-27, 51, 52 and 54-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed January 24, 2001 was filed without a copy reference cited because the same references had previously been cited in the parent case. As such, these references should be available to the examiner. Unfortunately, upon receiving the parent case file the examiner found that the references were no longer in the file. Therefore, the examiner has yet been unable to consider the 16 non-patent references cited on the IDS. At this time only the five U.S. Patent reference have been considered. So that these non-patent references can receive their due consideration, the examiner requests applicant to kindly supply another set of the "Other Documents" (non-patent) references.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

The application, as originally filed, includes claims 1-47 and 49-51, claim number 48 was not used. On January 24, 2001 applicant filed a preliminary amendment, with directions to cancel claims 1, 5-11, 15-22 and 28-51. The amendment also requested that new claims 48-53 be entered. Before entering the new claims presented by the preliminary amendment of January 24, 2001, the originally filed misnumbered claims 49-51 had been renumbered 48-50. The misnumbered new claims "48-53" were renumbered and entered as claims 51-56. Therefore, the remaining claims are: 2-4, 12-14, 23-27, and 51 -56.

Claim Rejections - 35 USC § 112

The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 56 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The material which is not supported by the original disclosure of 09/093,291, to which this application claims priority, is the limitation - "lacking a nitrogen- or phosphorous-containing -acceptor ligand."

The express exclusion of certain elements implies the permissible inclusion of all other elements not so expressly excluded. This clearly illustrates that such negative limitations do, in fact, introduce new concepts. *Ex Parte Grasselli*, 231 USPQ 393.

Claims 2-4, 12-14 and 23-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-4, 12-14, 23-27 each recite a dependency upon a canceled claim. There is insufficient antecedent basis for the dependencies in these claims. This situation might also be considered as one in which the claims are incomplete as essential steps are omitted, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are those set forth in the method recited in each of the canceled base claim.

Application/Control Number: 09/768,494

Art Unit: 1746

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 52 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 35 in U.S. Patent No. 6,254,792. This is a statutory double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 51 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 37 of U.S. Patent No. 6,245,792. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only distinction between instant claim 51 and claim 37 of '792 is that instant claim 51 recites "...wherein the gas phase XeF_2 is continually flowed..." while claim 37 of '792 (by way of parent claim 36) recites the analogous limitation by making reference to a cleaning gas which was defined as comprising XeF_2 . Specifically, claim 37 (via claim 36) recites "...and the cleaning gas is continually flowed...".

Claims 54 and 55 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 49 and 50 of copending Application No. 09/874,102. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant claim 54 is identical to claim 49 of '102 except 54 recites "a gas phase reactive halide composition comprising SiF_4 to remove the residue" and claim 49 of '102 recites "a gas phase reactive halide composition comprising SiF_4 in a sufficient amount to at least partially remove noble metal residue".

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 54 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,854,104 issued to Onishi et al. (hereinafter, Onishi).

Onishi teaches the use SiF_4 in a platinum etching gas that does not include a nitrogen or phosphorous π -acceptor ligand.

Onishi does not teach using SiF_4 in an etching process wherein the material being removed is a residue of platinum.

It would have been obvious to one skilled in the art to use Onishi's method when needing to etch a residue of platinum because the skilled artisan would fully realize that Onishi's method is directed to the etching of platinum and the method's utility is not limited to the etching of desired platinum features. It would be obvious to the skilled artisan that it the Onishi's method would function as well on platinum that just happened to be considered a residue as it would on a platinum film.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,492,855 issued to Matsumoto et al. (hereinafter, Matsumoto).

Matsumoto teaches using SF_6 as a component of a platinum etching gas that does not include a nitrogen or phosphorous π -acceptor ligand.

Matsumoto does not teach using SF_6 in an etching process wherein the material being removed is a residue of platinum.

It would have been obvious to one skilled in the art to use Matsumoto's method when needing to etch a residue of platinum because the skilled artisan would fully realize that Matsumoto's method of etching platinum is as applicable to the etching of a platinum residue as it is to the etching of a platinum film.

Allowable Subject Matter

Claim 53 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: Claim 53 pertains to the etching of an iridium containing material. There are two required components of the etchant, the first being XeF_2 and the second being a radical of either SiF_2 or SiF_3 . Furthermore, the claim requires that the etching take place with the etchant being retained within a reaction chamber (as opposed to a continuous flow type system). This method is novel and nonobvious over the prior art of record.

Conclusion

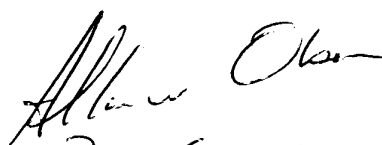
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. DeOrnellas (WO 98/00859) is applicable in the same manner as Onishi and Matsumoto in a 103 rejection of claim 56. Likewise, Smith et al. (U.S. 5,911,887 cited by applicant on IDS) could also be applied. However, in view of the above rejections, and so as to avoid an undue multiplicity of rejections, neither DeOrnellas or Smith are presently being applied.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is (703) 306-9075. The examiner can normally be reached on Monday through Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (703) 308-4333. The fax phone number for this Group is (703) 305-7719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.
November 17, 2001


PATENT EXAMINER
A.U. 1746